

REMARKS

Favorable consideration of the present application is respectfully requested.

The claims have been amended to further recite that the joined portion is produced by friction stir welding (FSW), and is “substantially without a crystal orientation characteristic of plastic flow” due to FSW. Basis for this is found at page 15 of the specification. That is:

In the friction-stirred portion where a rotating tool has passed through during joining, the crystal orientation is changed because of the plastic flow. Therefore, a trace of stirring distinctly appears on the surface after sputtering. Accordingly, in order to prepare a target having a flat face and a good appearance, the target is preferably annealed so that the region that has been subjected to a high deformation by the plastic flow is recrystallized. Thus, the extreme change in the crystal orientation in the plastic flowing region should be reduced to remove the trace of stirring.

The scope of the claims has not been substantially changed by this amendment, since it merely makes explicit the structure that one skilled in the art would have already understood to be present, as explained below.

Claims 1-4 have been rejected under 35 U.S.C. § 112 as being indefinite. According to this rejection, the recitation that “the joined portion has a recrystallized structure characteristic of annealing” is indefinite because the “specific structure of the joined portion” is not defined in the claims or specification. Additionally, the rejection indicates that this limitation has therefore been disregarded when applying the prior art (:[T]he [recrystallized] structure can be interpreted as *any* structure”). However, both the indefiniteness of this limitation and its resulting dismissal are respectfully traversed.

The standard for definiteness under 35 U.S.C. § 112, second paragraph, is whether one skilled in the art would understand what is claimed when the claim is read in light of the specification. *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1576, 1

USPQ2d 1081, 1088 (Fed. Cir. 1986); MPEP § 2173.02. Thus, neither the specification nor the claims is required to describe what is already known to those skilled in the art.

As already explained, page 15 of the original disclosure describes that during FSW “the crystal orientation [of the joined portion] is changed because of the plastic flow. ... [T]he target is preferably annealed so that the region that has been subjected to a high deformation by the plastic flow is recrystallized.” It is respectfully submitted that one skilled in the art would understand from this description, and without further definition in the specification or claims, that the recrystallized joined portion, following annealing, will not exhibit a crystal reorientation due to plastic flow. No further definition in the specification or claims is therefore believed to be required under 35 U.S.C. § 112.

In any case, the claims have nonetheless now been amended to make this explicit, i.e., they now recite that the joined portion is substantially without a crystal orientation characteristic of plastic flow due to friction stir welding.

Moreover, it is respectfully submitted that the Office Action has improperly disregarded the recitation that “the joined portion has a recrystallized structure characteristic of annealing.” A claim limitation cannot be disregarded simply because it is considered to be indefinite:

All words in a claim must be considered in judging the patentability of a claim against the prior art. [Citations omitted] The fact that terms may be indefinite does not make the claim obvious over the prior art. MPEP § 2173.06.

In view of this, and in view of the fact that the claims were not, in fact, indefinite, it is respectfully submitted that any prior art barring the patentability of the claims must teach a joined portion having a structure characteristic of recrystallization by annealing, i.e., a joined portion that does not exhibit a crystal reorientation due to plastic flow.

Claims 1-6 and 12-17 have again been rejected under 35 U.S.C. § 103 as being obvious over JP '393 in view of Rhodes et al. According to the Office Action, Rhodes et al discloses recrystallization due to FSW, and that although recrystallization by annealing is not taught, this difference relates to a product by process limitation which need not be considered. Moreover, FSW need not be considered because it is not recited in the claims (p. 4).

In response, it is noted that the claims now recite a joined portion produced by FSW. Moreover, the claimed joined portion having a structure characteristic of recrystallization by annealing and substantially “without a crystal orientation characteristic of plastic flow” due to FSW must be considered because it recites a *particular structure* resulting from the process step.

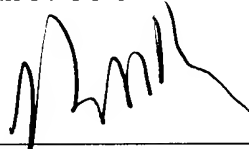
The structure implied by the process steps should be considered when assessing the patentability of product-by-process claims over the prior art, especially where the product can only be defined by the process steps by which the product is made, or where the manufacturing process steps would be expected to impart distinctive structural characteristics to the final product. MPEP § 2113.

While Rhodes et al teaches recrystallization due to FSW, those skilled in the art would recognize that the crystal orientation therein is characteristic of plastic flow and is different from that after annealing. Thus, in the absence of a teaching of annealing following FSW, the prior art – including Rhodes et al -- would not teach a sputtering target having a joined portion with a structure characteristic of the recrystallization of the material of the joined portion by annealing and substantially without a crystal orientation characteristic of plastic flow due to friction stir welding.

Applicants therefore believe that the present application is in a condition for allowance and respectfully solicit an early Notice of Allowability.

Respectfully submitted,

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